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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,637	10/31/2003	Daryl Smothers	36400.04US7	5386
25541	7590	03/25/2005	EXAMINER	
NEAL, GERBER, & EISENBERG SUITE 2200 2 NORTH LASALLE STREET CHICAGO, IL 60602			LOPEZ, FRANK D	
			ART UNIT	PAPER NUMBER
			3745	

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/699,637

Applicant(s)

SMOTHERS ET AL. 

Examiner

F. Daniel Lopez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22 is/are allowed.
- 6) ☒ Claim(s) 1-21 and 23-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/11/2003</u> . | 6) <input type="checkbox"/> Other: ____ |

Claim Rejections - 35 USC § 112

Claims 23-25 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 23 “wherein the center section is formed exterior to the housing” is wrong, since at most it forms an exterior part of the housing. Fig 1 can be considered as showing the center section (26) closing of the hole in the housing (22), but not extending past the exterior part of the housing.

Claim 25 should depend from claim 24, to give “the gallery” (line 2) proper antecedent basis. Note that without the antecedent basis, it is unclear whether the gallery is interior or exterior to the housing.

Claims not specifically mentioned are indefinite, since they depend from one of the above claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5, 8, and 17 are rejected under 35 U.S.C. § 102(b) as being anticipated by Ohashi (see discussion below).

Claims 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by Arz. A center section (112) mounted entirely within the housing (111, 122) includes porting (shown in dotted lines) between the pump (1) and the motor (114), with the pump mounted (by bearing 108) on a pump running surface of the center section.

Claims 1, 2 and 5 are rejected under 35 U.S.C. § 102(b) as being anticipated by British 1,126,363 (see discussion below).

Note that the limitation “a single output shaft driven by the motor block and extending out of the housing” (e.g. claim 1 line 10) is understood to mean that the motor

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is connected only to a single output shaft, which extends from inside to outside of the housing; not that the housing includes only a single output shaft extending out of the housing.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1, 5 and 8 are rejected under 35 U.S.C. § 103 as being unpatentable over Kudo et al. Kudo et al discloses a hydrostatic transmission comprising a pump (e.g. 2) connected to a motor (e.g. 8) by porting in a center section (27); with input (22) and output shafts extending through a housing (63, 64, fig 4) to drive the pump and be driven by the motor, respectively; wherein the output shaft is a single shaft driven by the motor; wherein the center section has pump and motor mounting surfaces on which the pump and motor, respectively, are mounted; wherein the axes of the input and output shafts are perpendicular to each other; wherein the device includes a sump (51, 52); but does not disclose that the housing forms the sump; or that the pump and motor have rotatable blocks mounted on the respective running surface.

Official notice is taken that housings of hydrostatic transmissions are used as sumps; and that a hydrostatic transmission with a pump and motor mounted to respective mounting surfaces of a center section, can have rotatable blocks mounted on the respective mounting surfaces, making the mounting surfaces running surfaces. It would have been obvious at the time the invention was made to one having ordinary

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skill in the art to use the housing of the hydrostatic transmission of Kudo et al as a sump; and to form the pump and motor of Kudo et al with rotatable blocks mounted on the respective mounting surfaces, making the mounting surfaces running surfaces, as a matter of engineering expediency.

Claims 4, 6, 7, 9-15 and 18-20 are rejected under 35 U.S.C. § 103 as being unpatentable over Ohashi in view of Swanson. Ohashi discloses a hydrostatic transmission comprising a pump connected to a motor by porting in a center section (3); with an input shaft (11) and a single output shaft (12) extending through a housing (1, 2) to drive a rotatable pump block (5) and be driven by a rotatable motor block, respectively; wherein the center section has pump and motor running surfaces on which the pump and motor blocks, respectively, are rotatably mounted; wherein the axes of the input and output shafts are perpendicular to each other; wherein the housing forms an internal sump (51, 52); wherein a gallery (within the filter 16, or identical to the sump) is formed between the lower housing and the center section; but does not disclose that the pump shaft extends through the center section and drives a separate charge pump mounted on an external surface of the housing, wherein the charge pump receives fluid from the internal sump, or via a filter, from an external sump; or that there is a passage formed between an external gallery, between the housing and the charge pump, and the interior gallery. Note that fig 1 clearly shows the output shaft extending outside of the transmission housing, and fig 2 clearly shows that the output shaft extending into a brake housing (28). Clearly this meets applicant's limitation, since applicant's output shaft extends out of the hydrostatic transmission housing, into an axle housing (not shown in applicant's fig 10).

Swanson teaches, for a hydrostatic transmission comprising a pump connected to a motor by porting in a center section (22); with an input shaft (21) and a single output shaft (52) extending through a housing (22, 23) to drive a rotatable pump block (34) and be driven by a rotatable motor block (57), respectively; wherein the center section has pump and motor running surfaces on which the pump and motor blocks, respectively, are rotatably mounted; wherein the housing forms an internal sump

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(connected to 98); that the pump shaft extends through the center section and drives a separate charge pump (92) mounted on an external surface of the housing, wherein the charge pump receives fluid via a filter (91), from an external sump (90), and from the internal sump, via the external sump, for the purpose of supplying make-up fluid to the hydrostatic transmission; and that there is a passage (79) formed between an external gallery (76), between the housing and the charge pump, and the interior gallery (or sump), with a pressure relief valve (96) in the passage between the gallery and the sump, for the purpose of preventing excess pressure in the external gallery.

Since Ohashi and Swanson are both from the same field of endeavor, the purpose disclosed by Swanson would have been recognized in the pertinent art of Ohashi. It would have been obvious at the time the invention was made to one having ordinary skill in the art to extend the pump shaft through the center section of Ohashi, to drive a separate charge pump mounted on an external surface of the housing, wherein the charge pump receives fluid via a filter, from an external sump, and from the internal sump, via the external sump, as taught by Swanson, for the purpose of supplying make-up fluid to the hydrostatic transmission; and forming a passage between an external gallery, between the housing and the charge pump of Ohashi, and the interior gallery (i.e. sump), with a pressure relief valve in the passage between the gallery and the sump, as taught by Swanson, for the purpose of preventing excess pressure in the external gallery.

Claims 16, 21 and 25 are rejected under 35 U.S.C. § 103 as being unpatentable over Ohashi in view of Swanson, as applied to claims 9 and 18, respectively, above, and further in view of Knapp (4,041,703). The modified Ohashi discloses all the elements discussed above; but does not disclose that an auxiliary pump mounted proximate to the charge pump.

Knapp (4,041,703) teaches, for a hydrostatic transmission comprising a pump connected to a motor by porting; with an input shaft (14) driving a rotatable pump block (38), and extends through a housing, to drives a separate charge pump (22) mounted on an external surface of the housing, that an auxiliary pump (24) mounted proximate to

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the charge pump, for the purpose of supplying fluid to an auxiliary motor (e.g. column 3 line 47-51).

Since Ohashi and Knapp (4,041,703) are both from the same field of endeavor, the purpose disclosed by Knapp (4,041,703) would have been recognized in the pertinent art of Ohashi. It would have been obvious at the time the invention was made to one having ordinary skill in the art to mount an auxiliary pump proximate to the charge pump of Ohashi, as taught by Knapp (4,041,703), for the purpose of supplying fluid to an auxiliary motor

Claim 3 is rejected under 35 U.S.C. § 103 as being unpatentable over Ohashi in view of Okada 4,905,472. Ohashi discloses a hydrostatic transmission comprising all the elements discussed above and further a pump swash plate control arm (connected to 30, fig 2) connected to a pump swash plate (7), extending out the top of the housing; but does not disclose that the a swash plate control arm extends out of the housing on a side opposite the output shaft.

Okada 4,905,472 teaches, for a hydrostatic transmission comprising a pump connected to a motor by porting in a center section (formed as part of the housing); with an input shaft (4) extending through the housing and a output shaft (5) to drive a rotatable pump block (10) and be driven by a rotatable motor block (11), respectively; wherein the center section has pump and motor running surfaces on which the pump and motor blocks, respectively, are rotatably mounted; a pump swash plate control arm (6) connected to a pump swash plate (9); wherein the axes of the input and output shafts are perpendicular to each other; that the swash plate control arm extends out of the housing on a side opposite the output shaft (e.g. fig 2).

Since the swash plate control arms of Ohashi and Okada 4,905,472 are functionally equivalent in the swash plate hydrostatic transmission art, it would have been obvious at the time the invention was made to one having ordinary skill in the art to replace the swash plate control arm of Ohashi with a swash plate control arm extends out of the housing on a side opposite the output shaft, as taught by Okada 4,905,472, as a matter of engineering expediency.

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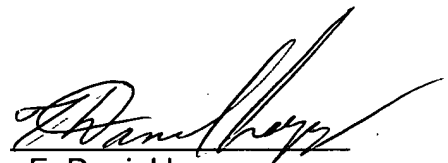
Conclusion

Claim 22 is allowed.

Claims 23 and 24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. § 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is 571-272-4821. The examiner can normally be reached on Monday-Thursday from 6:15 AM -3:45 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on 571-272-4820. The fax number for this group is (703) 872-9306. Any inquiry of a general nature should be directed to the Help Desk, whose telephone number is 1-800-PTO-9199.

A handwritten signature in black ink, appearing to read 'F. Daniel Lopez', with a long horizontal flourish extending to the right.

F. Daniel Lopez
Primary Examiner
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March 21, 2005